

[00110] What is Claimed:

- [00111]** 1. A surgical stapling instrument comprising:
- [00112]** a cartridge containing a plurality of staples and a wedge member, said wedge member moveable longitudinally within said cartridge to eject said staples from said cartridge;
- [00113]** a firing member cooperatively engagable with said wedge member and longitudinally moveable in a distal direction to eject said staples; and
- [00114]** a locking mechanism for preventing distal movement of said firing bar after at least one of said said staples has been ejected and said firing bar has been moved proximally a predetermined distance, wherein said wedge member biases said firing member into an unlocked position prior to said staples being deployed and wherein said wedge and said firing bar are not cooperatively engaged when said instrument is in a locked position..
- [00115]** 2. The surgical device according to claim 1 further including a biasing feature which biases said firing bar in an unlocked position prior to said firing bar engaging said wedge member.
- [00116]** 3. The surgical device according to claim 2 wherein said biasing feature is attached to said firing bar.
- [00117]** 4. The surgical instrument of claim 1 wherein at least one of said wedge or said firing member includes a coupling feature, said coupling feature cooperatively engaging said firing bar to said wedge member and preventing engagement of said firing bar with said lockout.
- [00118]** 5. The surgical instrument of claim 4 wherein said coupling feature is an extension member cooperatively engagable with at least one of said wedge member or said firing bar.
- [00119]** 6. The surgical instrument of claim 5 including a reception feature on at least one of said wedge member or said firing bar to cooperatively receive said extension member.

- [00120] 7. The surgical instrument of claim 1 further including at least one pin member extending from said firing bar, at least one of said pin members engaging with said locking mechanism to lock said firing bar.
- [00121] 8. The surgical instrument of claim 1 further including a spring, said spring normally biasing said firing member towards said locking member.
- [00122] 9 The surgical instrument of claim 1 wherein said firing bar includes a sharp edge for cutting tissue.
- [00123] 10. A surgical stapling instrument comprising:
- [00124] an elongate channel extending from said surgical stapling instrument;
- [00125] a cartridge supported in said elongate channel and containing a plurality of staples and a wedge member, said wedge member moveable longitudinally within said cartridge to eject said staples from said cartridge;
- [00126] a firing member cooperatively engagable with said wedge member and longitudinally moveable in a distal direction to eject said staples; and
- [00127] a locking mechanism for locking said firing bar to said elongate channel by preventing distal movement of said firing bar after at least one of said said staples has been ejected and said firing bar has been moved proximally a predetermined distance, wherein said wedge member biases said firing member into an unlocked position prior to said staples being deployed and wherein said wedge and said firing bar are not cooperatively engaged when said instrument is in a locked position.
- [00128] 11. The surgical device according to claim 10 further including a biasing feature which operably engages with said elongate channel to bias said firing bar in an unlocked position prior to said firing bar engaging said wedge member.
- [00129] 12. The surgical device according to claim 11 wherein said biasing feature is attached to said firing bar.

- [00130] 13. The surgical instrument of claim 17 wherein said channel includes an open channel slot for passage of the firing member therein, said channel slot having a distal end and a proximal end distal to said biasing feature, wherein when said biasing feature of said firing bar moves longitudinally a predetermined distance, said biasing member disengages with said channel.
- [00131] 14. The surgical stapling instrument of claim 10 wherein said elongate channel includes at least one reception feature for locking engagement with said firing bar.
- [00132] 15. The surgical stapling instrument of claim 14 including at least one pin member extending from said firing bar, at least one of said at least one pin members capable of locking engagement with said at least one reception feature of said elongate channel.
- [00133] 16. The surgical stapling instrument of claim 10 including a spring member for normally biasing said firing member towards locking engagement with said elongate channel.
- [00134] 17. The surgical instrument of claim 10 wherein at least one of said wedge or said firing member includes a coupling feature, said coupling feature cooperatively engaging said firing bar to said wedge member and preventing engagement of said firing bar with said lockout.
- [00135] 18. The surgical instrument of claim 17 wherein said coupling feature is an extension member cooperatively engagable with at least one of said wedge member or said firing bar.
- [00136] 19. The surgical instrument of claim 18 including a reception feature on at least one of said wedge member or said firing bar to cooperatively receive said extension member.
- [00137] 20. The surgical instrument of claim 10 including a support member on said firing bar, said support member interacting with said channel to align said firing member with said wedge member until said firing member

cooperatively engages with said wedge member during an initial portion of said longitudinal movement.

[00138] 21. The surgical instrument of claim 8 wherein said firing member includes a sharp for cutting tissue.

[00139] 22. A surgical stapling instrument comprising:

[00140] a cartridge containing a plurality of staples and a wedge member, said wedge member moveable longitudinally within said cartridge to eject said staples from said cartridge;

[00141] firing member cooperatively engagable with said wedge member and longitudinally moveable in a distal direction to eject said staples; and

[00142] a locking mechanism for preventing distal movement of said firing bar after at least one of said staples has been ejected and said firing bar has been moved proximally a predetermined distance, wherein said wedge member biases said firing member into an unlocked position prior to said staples being deployed and wherein said wedge and said firing bar are not cooperatively engaged when said instrument is in a locked position

[00143] a firing trigger operably coupled to said locking mechanism and said firing bar, said firing trigger capable of at least one actuation to move said firing member distally.